

MEMORANDUM

TO: Arnold & Porter

FROM: *The Brattle Group*

SUBJ: Colstrip Unit 1, Condenser Tube Replacement (CS241)

DATE: January 10, 2012

The Brattle Group was asked to examine the outage and derating history of Colstrip Unit 1 associated with the condenser tubes, several of which will be replaced. This project (CS241) has an estimated in-service date of June 2012. Colstrip Unit 1's June 2007 through November 2010 GADS data were examined. The GADS outage codes associated with condenser tube leaks, other air-cooled condenser problems, and other condenser tube casing or shell and internal problems (3110, 3118, and 3119, respectively) were used for this analysis.

The following table displays the number of hours during which Colstrip Unit 1 experienced forced outages or deratings with these GADS codes from June 2007 to November 2010—the period within 60 months of the estimated in-service date for which data are available.

**Related Forced Deratings and Outages
at Colstrip 1**

Period	Hours Derated or on Outage
Jun. 2007 - Dec. 2007	Redacted to protect confidential business information
2008	
2009	
Jan. 2010 - Nov. 2010	

The Brattle Group

Period	Related Forced Deratings & Outages (Hours)	Recovered MWh	Average 2009 Emission Rate (Lbs/MWh)			Tons Over Entire Time Period			Average Tons Emitted per 12 Months		
			SO ₂	NO _x	CO ₂	SO ₂	NO _x	CO ₂	SO ₂	NO _x	CO ₂
Jul. 2007 - Jun. 2009	0.0	0	5.25	3.44	2,370	0.00	0.00	0	0.00	0.00	0

Note: GADS codes 3110, 3118, and 3119 were used in this analysis.

The unit did not experience any related forced outages or deratings during the period from July 2007 through June 2009. Therefore, adopting this period as a clean baseline, one could assert reasonably that this project will not result in an increase in emissions exceeding 40 tons per year for the criteria pollutants SO₂ and NO_x. Similarly, for the same period, the maximum annual increase for CO₂ would be zero.